

ABSTRACT

To provide a manufacturing method of the semiconductor IC device having fine-structure connecting holes or trenches with high dimensional precision. There is the following step of the operation: a hook-shaped hard mask made of polysilicon film 18 and polysilicon film 20a .is formed on the surface of silica film 17 for forming connecting holes 21 accommodating plugs that perform an electrical connection with the lower portion of the lower electrode of the capacitor in the COB-type memory cells, with the hook-shaped hard mask being used as an etching mask in selective etching so as to form connecting holes 21 on silica film 17 and silica film 15 below it.